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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,341	12/16/2003	Russell L. Holden	LOT920030052US1	9103

23550 7590 04/13/2007
HOFFMAN WARNICK & D'ALESSANDRO, LLC
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EXAMINER

VAUTROT, DENNIS L

ART UNIT	PAPER NUMBER
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2167

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/737,341	HOLDEN ET AL.	
	Examiner	Art Unit	
	Dennis L. Vautrot	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. The submitted claims from 14 December 2006 were used for this action.
Applicant's arguments with respect to claims 1 - 22 have been considered but are moot in view of the new ground(s) of rejection.
3. Claims 1 – 22 are pending in the application.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 – 5, 8 – 12, 15 – 19, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by **Gehani et al.** (hereinafter **Gehani**, 5,765,171).
6. Regarding claim 1, **Gehani** teaches a method for preventing an unread activity from being bounced-back to an originating server during a replication operation (See Fig

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5, item 520, where the comparison of the originating server and receiving server is tested in order for the replication operation to take place. Unread activity is not specifically mentioned, but one use for the replication propagation is mentioned in column 7, lines 63 – 64 – Lotus Notes, which is well known in the art to consist of an e mail application which would necessarily include unread data within its data, as discussed in the reference.), comprising:

storing an identification of an originating server of a replicated unread activity [update record] in an unread log of a receiving [recipient] server (See column 7, lines 28 – 32 "...where SID is a server ID that identifies a server in the system...The update count indicates the number of updates originating from the server contained in SID." and see column 8, lines 7 – 8 "In general, the two-phase gossip protocol stores each update to a data item in a log as an update record." and see column 8, lines 11 – 17 "In addition, the update record contains the identity of the server that originally performed the update. During the replication session, these update records are then propagated to the recipient server as a stream of update records and each record is applied to the appropriate data items in the recipient replica..."); and

during a subsequent replication process initiated by the receiving [recipient] server (See column 7, lines 57 – 60 "By comparing DBVVo with DBV Vr, the recipient server can quickly determine whether updates are required without having to analyze each and every single data item in the database."), preventing replication of the unread activity back to the originating server (See column 7, lines 54 – 57 "If, on the other hand, DBVVo and DBV Vr are identical, then the server proceeds to step 540 where the

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update replication process between the source and recipient servers terminates." In other words, if the originating server code and recipient server code are the same, then the replication does not occur.)

7. Regarding claims 2, 9, and 16, **Gehani** teaches during the subsequent replication process, replicating the unread activity to at least one other server not identified as the originating server (See column 7, lines 46-50 "At step 520, the recipient server compares its database version vector (DBV_{Vr}) to DBV_{Vo}. If DBV_{Vo} and DBV_{Vr} are not identical, i.e. the count values of corresponding entries in both DBV_{Vo} and DBV_{Vr}, are not equal, then replication is necessary." DBV_{Vr} includes the receiving server's ID and DBV_{Vo} includes the originating server's ID.)

8. Regarding claims 3, 10, and 17, **Gehani** teaches storing an identification further comprises: updating the unread log to include an unread entry [update record] corresponding to the replicated unread activity (See column 8, lines 7 – 8 "In general, the two-phase gossip protocol stores each update to a data item in a log as an update record."); and

storing the identification of the originating server with the unread entry. (See column 8, lines 11 – 17 "In addition, the update record contains the identity of the server that originally performed the update. During the replication session, these update records are then propagated to the recipient server as a stream of update records and each record is applied to the appropriate data items in the recipient replica...")

Regarding claims 4, 11, and 18, **Gehani** teaches preventing the replication of the unread activity back to the originating server further comprises: examining the unread log to determine if any unread entries stored therein correspond to an unread activity received from the originating server (See column 7, lines 57 – 60 “By comparing DBVVo with DBV Vr, the recipient server can quickly determine whether updates are required without having to analyze each and every single data item in the database.”); and, during the subsequent replication process, not replicating any unread activity identified as being received from the originating server back to the originating server. (See column 7, lines 54 – 57 “If, on the other hand, DBVVo and DBV Vr are identical, then the server proceeds to step 540 where the update replication process between the source and recipient servers terminates.” In other words, if the originating server code and recipient server code are the same, then the replication does not occur.)

9. Regarding claims 5, 12, and 19, **Gehani** teaches the originating server has a name, and wherein the identification is a hash [SID] of the name of the originating server. (See column 7, lines 28 – 32 “...where SID is a server ID that identifies a server in the system...The update count indicates the number of updates originating from the server contained in SID.” The SID is interpreted to be a has of the name of the originating server.)

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10. Regarding claim 8, **Gehani** teaches a bounce-back prevention system, comprising: a receiving server for receiving an unread activity replicated by an originating server, the receiving server including an unread log for storing an identification of the originating server (See column 7, lines 28 – 32 "...where SID is a server ID that identifies a server in the system...The update count indicates the number of updates originating from the server contained in SID." and see column 8, lines 7 – 8 "In general, the two-phase gossip protocol stores each update to a data item in a log as an update record." and see column 8, lines 11 – 17 "In addition, the update record contains the identity of the server that originally performed the update. During the replication session, these update records are then propagated to the recipient server as a stream of update records and each record is applied to the appropriate data items in the recipient replica..."); and

a system for preventing replication of the unread activity back to the originating server during a subsequent replication process initiated by the receiving server. (See column 7, lines 54 – 57 "If, on the other hand, DBVVo and DBVVr are identical, then the server proceeds to step 540 where the update replication process between the source and recipient servers terminates." In other words, if the originating server code and recipient server code are the same, then the replication does not occur.)

11. Regarding claim 15, **Gehani** teaches a program product stored on a recordable medium (See column 2, line 65 – column 3, line 4) for preventing an unread activity from being bounced-back to an originating server during a replication operation, which

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when executed on a computer system comprises: program code for storing an identification of an originating server of a replicated unread activity in an unread log of a receiving server (See column 7, lines 28 – 32 "...where SID is a server ID that identifies a server in the system... The update count indicates the number of updates originating from the server contained in SID." and see column 8, lines 7 – 8 "In general, the two-phase gossip protocol stores each update to a data item in a log as an update record." and see column 8, lines 11 – 17 "In addition, the update record contains the identity of the server that originally performed the update. During the replication session, these update records are then propagated to the recipient server as a stream of update records and each record is applied to the appropriate data items in the recipient replica..."); and

program code for preventing replication of the unread activity back to the originating server, during a subsequent replication process initiated by the receiving server. (See column 7, lines 54 – 57 "If, on the other hand, DBVVo and DBVVr are identical, then the server proceeds to step 540 where the update replication process between the source and recipient servers terminates." In other words, if the originating server code and recipient server code are the same, then the replication does not occur.)

12. Regarding claim 22, **Gehani** teaches a method for preventing an unread activity from being bounced-back to at least one originating server during a replication operation, comprising: storing an identification of each originating server of a replicated

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unread activity in an unread log of a receiving server(See column 7, lines 28 – 32

"...where SID is a server ID that identifies a server in the system...The update count indicates the number of updates originating from the server contained in SID." and see column 8, lines 7 – 8 "In general, the two-phase gossip protocol stores each update to a data item in a log as an update record." and see column 8, lines 11 – 17 "In addition, the update record contains the identity of the server that originally performed the update. During the replication session, these update records are then propagated to the recipient server as a stream of update records and each record is applied to the appropriate data items in the recipient replica..."); and

during a subsequent replication process initiated by the receiving server, preventing replication of the unread activity back to each originating server. (See column 7, lines 54 – 57 "If, on the other hand, DBVVo and DBVVr are identical, then the server proceeds to step 540 where the update replication process between the source and recipient servers terminates." In other words, if the originating server code and recipient server code are the same, then the replication does not occur.)

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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14. Claims 6, 7, 13, 14, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gehani** as applied to claim 5 above, and further in view of **Benson** (5,819,272).

15. Regarding claims 6, 13, and 20, **Gehani** teaches a method substantially as claimed.

Gehani does not explicitly disclose during the subsequent replication process, if another server has the same hash as the originating server, the receiving server replicates the unread activity to the other server and back to the originating server

However, **Benson** teaches during the subsequent replication process, if another server has the same hash as the originating server, the receiving server replicates the unread activity to the other server and back to the originating server. (See column 5, lines 60-62 and 56-58 "First, it is determined whether the message is a replication conflict message (step 70)....All replicas would independently recognize the conflict, and build identical replication conflict messages.")

It would have been obvious to one with ordinary skill in the art at the time of the invention to combine **Gehani** with **Benson** because both are related to database replication, and by including the hash collision teachings and disclosed in **Benson**, the method is more robust by being able to handle conflicts in the hash algorithm. It is for this reason that one of ordinary skill in the art would have been motivated to include during the subsequent replication process, if another server has the same hash as the

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originating server, the receiving server replicates the unread activity to the other server and back to the originating server.

16. Regarding claims 7, 14, and 21, the combination of **Gehani** and **Benson** additionally teaches the originating server discards any duplicate replicated unread activities (See **Benson** column 5, line 67 – column 6, line 4 “If the message is not a replication conflict message, then its singular CN is compared to CNs_Marked_Read_Or_Deleted (step 72), and the message is marked read (step 76) if the CN is contained in the set. Otherwise it is marked unread (step 78).”)

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Strickler et al (6,122,630) – inhibits posting transactions which are detected as being originally sent by the local node.

Falls et al (5,991,771) – synchronization of a disconnectable computer

Parham et al (6,453,326) – stores ID of originating system

Swildens et al (2004/0221019) – includes server name hash functions

Pedrizetti et al (6,789,255) – hash collisions

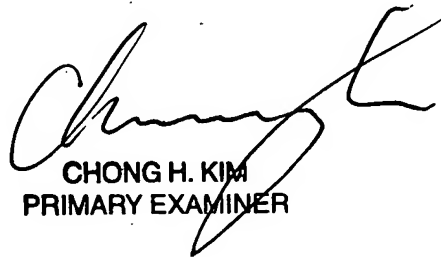
Chen et al (2006/0059208) – deals with conflicts over read/unread marks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis L. Vautrot whose telephone number is 571-272-2184. The examiner can normally be reached on Monday-Friday 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dv
9 April 2007



CHONG H. KIM
PRIMARY EXAMINER